

## ABSTRACT

In warming up operation when the temperature of an engine is low, heat release in a combustion chamber is delayed by making ignition timing immediately before the top dead center of compression stroke or later. Hereby, exhaust gas including a large quantity of unburned HC, oxygen and carbon monoxide is exhausted into an exhaust passage. Then, the mixture of the HC, oxygen and carbon monoxide is accelerated by a turbulence generating means for generating turbulence in an exhaust flow mounted in the exhaust passage. Hereby, the HC is combusted in the exhaust passage, exhaust temperature is raised, resulting in that effective reduction of the HC. As the exhaust temperature is raised, it can activate earlier a catalytic converter for purifying exhaust.